

## **UNDER-HOOD ENGINE AIR INTAKE SYSTEM**

### **Abstract of the Disclosure**

An engine air intake system including an engine air intake device and a plenum cooling compartment that is separate from the engine compartment by a baffle. The plenum cooling compartment is formed by the baffle, side doors, a fan door and a floor and contains a heat exchanger. A fan draws outside ambient air into the plenum cooling compartment, via perforations in the top and side doors, and out of the plenum cooling area via the heat exchanger. The cooling compartment is designed such that a distance between the heat exchanger and the baffle provides a gap from which the engine air intake device removes ambient air as a source for engine air. An option is provide for the system to withdraw outside ambient air from an area external to the plenum cooling compartment in high debris environments. The engine air intake system cleans the air before supplying it to the engine.